

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,081	08/31/2001	Dietrich Charisius	TS1001	5600

23485 7590 08/27/2004

JINAN GLASGOW
P O BOX 28539
RALEIGH, NC 276118539

EXAMINER

VO, TED T

ART UNIT	PAPER NUMBER
----------	--------------

2122

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/945,081

Applicant(s)

CHARISIUS ET AL.

Examiner

Ted T. Vo

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 12-14, 16-28, 33-35, 37-47 and 53 is/are rejected.
- 7) ☒ Claim(s) 8-11, 15, 29-32, 36 and 48-52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/26/02 ✓
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the communications filed on 08/31/2001.
Claims 1-53 are pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 7, 12, 22, 28, 33, 44, 53 are rejected under 35 U.S.C. 102(a) as being anticipated by Workflow Management Coalition WfMC, "Workflow Management Coalition Workflow Standard – Interoperability Wf-XML Binding" (hereafter: WfMC).

Given the broadest reasonable interpretation of followed claims in light of the specification.

As per Claim 1: WfMC discloses, "*A method in a data processing system having a workflow that models a process and a plan that reflects an instance of the process and that has been created from the workflow, the method comprising the steps of:*

initiating execution of the plan such that the instance of the process is at least partially performed

(WfMC: See page 9, Diagram 1, Observer → Process Definition);

receiving a characteristic about the at least partial performance of the plan (WfMC: See page 9,

Diagram 1, GetProcessInstanceData); *and*

Art Unit: 2122

modifying the workflow to reflect the characteristic so that a subsequent plan created from the modified workflow has the received characteristic." (WfMC: See page 9, Diagram 1, GetProcessInstanceData – ChangeProcessInstanceState).

As per Claim 7: Regarding: *"The method of claim 1, wherein the workflow includes an activity that has a default-successor and the plan includes a task that performs the activity, and wherein the received characteristic corresponds to a successor of the task"*: The framework in the Diagram 1 discloses means of a *default-successor*: that is the observer creates a new process instance (WfMC: See Observer – CreateProcessInstance – Process Definition).

As per Claim 12: WfMC discloses, *"The method of claim 1, wherein the step of modifying the workflow further comprises the steps of: notifying a user of a recommendation to modify the workflow to reflect the received characteristic; receiving a reply to the notification (See page 39, section B.4: This teaching shows the Diagram 1 is capable of doing notification); determining whether the reply authorizes the recommendation; and when it is determined that the reply authorizes the recommendation, modifying the workflow to reflect the characteristic"* (WfMC: See page 19, Authorization code, in section 2.3.10.1, and see page 26, section 2.4.3: These teachings are capable of authorizing recommendation and modification).

As per Claim 22: Claim 22 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 1. Claim 22 is rejected in the same reason set forth in connecting to the rejection of Claim 1.

As per Claim 28: Claim 28 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 7. Claim 28 is rejected in the same reason set forth in connecting to the rejection of Claim 7.

As per Claim 33: Claim 33 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 12. Claim 33 is rejected in the same reason set forth in connecting to the rejection of Claim 12.

Art Unit: 2122

As per Claim 44: Claim 44 recites a data processing system that has claimed functionality corresponding to the functionality recited in Claim 1. Claim 44 is rejected in the same reason set forth in connecting to the rejection of Claim 1.

As per Claim 53: Claim 53 recites a system that has claimed functionality corresponding to the functionality recited in Claim 1. Claim 53 is rejected in the same reason set forth in connecting to the rejection of Claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A person shall be entitled to a patent unless —

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-6, 13-14, 16-21, 23-27, 34-35, 37-43, 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Workflow Management Coalition WfMC, "Workflow Management Coalition Workflow Standard –Interoperability Wf-XML Binding" in view of Craven et al., "Goal and Processes: A Task Basis for Projects and Workflows".

Given the broadest reasonable interpretation of followed claims in light of the specification:

As per claim 2:

WfMC does not explicitly disclose the limitation of Claim 2.

Craven discloses, "*The method of claim 1, wherein the workflow includes an activity that has a duration and the plan includes a task that performs the activity for the duration, and wherein the received*

Art Unit: 2122

characteristic is a new duration" (Craven: See page 240, right column, section 2.6: Workflow tasks: *activity/task*; Workflow plan (Craven: Section 2.2, page 239): *plan*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of constraints in workflow process of Craven and the process instance modification in workflow system as disclosed in WfMC. Doing so would resize unexpected occurrences in a business plan; thus, would improve workflow management.

As per Claim 3: Craven further discloses, *"The method of claim 2, wherein the step of modifying the workflow comprises the steps of: determining whether the duration of the task is within a predetermined tolerance of the duration of the activity; and when it is determined that the duration of the task is within the predetermined tolerance of the duration of the activity, modifying the duration of the activity to correspond to the duration of the task"* (Craven: Section 2.2 and 2.4 disclose plan and task can be modified. Page 240, section 2.6: time constraints. User has a capability to modify duration up to the limitation of time constraints). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching *modifying duration of activity* in a plan of Craven. Doing so would provide more flexible view of time from changing activity duration.

As per Claim 4: WfMC does not explicitly disclose the limitation of Claim 4.

Craven discloses, *"The method of claim 1, wherein the workflow includes an activity that has a role and the plan includes a task that performs the activity, wherein the task has a same role as the activity and has a resource assigned to perform the role, and wherein the received characteristic is the resource assigned to perform the role"* (Craven: See page 240, section 2.5: shows each task is assigned to a role, and referring "Workflow tasks": *activity/task*, "Workflow plan" (Section 2.2, page 239): *plan*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching Role, and Task assigned to a role, of Craven. Doing so would be conforming to a standard of workflow management (Workflow/role/activity), and would provide more flexible work force.

As per Claim 5: Craven further discloses, *"The method of claim 4, wherein the step of modifying the workflow comprises the steps of: determining whether the resource was manually assigned by a user;*

Art Unit: 2122

and when it is determined the resource was manually assigned by a user, identifying another role that the manually assigned resource is capable of performing; and replacing the role of the activity with the other role" (Craven: See page 240, section 2.5: shows each task is assigned to a role; particularly, first paragraph in section 2.5, "naming an individual to a task", "substitution of one person for another person"). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching *resource assigned to perform the role of Craven*. Doing so would be conforming to a standard of workflow management (Workflow/role/activity), and would provide more management flexibility.

As per Claim 6: Craven further discloses, *"The method of claim 4, wherein the role has a skill and a corresponding skill strength and wherein the step of modifying the workflow comprises the steps of: determining whether the resource was manually assigned by a user; and when it is determined the resource was manually assigned by a user, identifying a skill of the resource that corresponds to that of the role; and modifying the skill strength of the role to be substantially equivalent to a corresponding skill strength of the resource"* (Craven: See page 240, section 2.5: shows each task is assigned to a role, particularly, first paragraph in section 2.5, "substitution of one person for another person/group with the specified skill set"). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching *identifying a skill assigned to the new resource and modifying the role of the activity to have a corresponding skill strength of Craven*. Doing so would be conforming to a standard of workflow management (Workflow/role/activity), and would provide more management flexibility.

As per Claim 13:

Regarding: *"A method in a data processing system with a workflow that models a process and a plurality of plans generated from the workflow that reflects instances of the process, the method comprising the steps of: receiving a modification to a characteristic of at least one of the plans; determining whether a number of the modified plans exceeds a predefined threshold; and when it is determined that the number exceeds the predefined threshold, performing the modification on the workflow"*: WfMC discloses a

Art Unit: 2122

model process in a workflow system, where an observer receives data exchange in the workflow system from a process instance, and performs modification on the process instance (WfMC: See Diagram 1).

WfMC, however, does not explicitly disclose the modification is based on a threshold.

Craven discloses that in certain stages of workflow process, if there is a need for change (Craven: See section 2.4), such as an unexpected event [threshold] (Section 2.3), time constraints [threshold] (section 2.6), or cost factor [threshold] (section 2.10), then it requires plan/task modification (Craven: See section 2.3, 2.4, and 2.6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of constraints in workflow process of Craven and the process instance modification in workflow system as disclosed in WfMC. Doing so would resize unexpected occurrences in a business plan; thus, would improve workflow management.

As per Claim 14: Craven further discloses, *"The method in claim 13, wherein the workflow has an activity, wherein each of the plurality of plans has a task that performs the activity for a duration, wherein the receiving step includes the step of receiving a new duration for the task in the at least one of the plans, and wherein the step of performing includes the step of modifying a duration of the activity in the workflow to reflect the new duration"* (Craven: Section 2.2 and 2.4 disclose plan and task can be modified. Page 240, section 2.6: time constraints. User has a capability to modify duration up to the limitation of time constraints). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching *workflow has an activity and modifying duration of activity* in a plan of Craven. Doing so would be conforming to a standard of workflow management (Workflow/role/activity), and would provide more flexible view of time from changing activity duration.

As per Claim 16: Craven further discloses, *"The method in claim 13, wherein the workflow has an activity, wherein each of the plurality of plans has a task that includes a role to perform the activity, wherein the receiving step includes the step of receiving a new role for the task in the at least one of the plans, and wherein the step of performing includes the step of modifying a role of the activity in the workflow to reflect the new role"* (Craven: See page 240, section 2.5: shows each task is assigned to a role. Referring "Workflow tasks": *activity/task*, "Workflow plan" (Section 2.2, page 239): *plan*). Therefore, it

Art Unit: 2122

would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching Role and modifying Role of Craven. Doing so would be conforming to a standard of workflow management (Workflow/role/activity), and would provide more flexible work force.

As per Claim 17: Craven further discloses, *"The method in claim 13, wherein the workflow has an activity, wherein each of the plurality of plans has a task that includes the role to perform the activity and that includes a resource assigned to perform the role, wherein the role of the task is consistent with a role of the activity, wherein the receiving step includes the step of receiving a new resource for the task in the at least one of the plans, and wherein the step of performing includes the steps of: determining whether the new resource is capable of performing the role; when it is determined that the new resource is not capable of performing the role, identifying another role that the new resource is capable of performing; and modifying the role of the activity to reflect the other role"* (Craven: See page 240, section 2.5: shows each task is assigned to a role; particularly, first paragraph in section 2.5, "naming an individual to a task", "substitution of one person for another person"). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching *resource assigned to perform the role* of Craven. Doing so would be conforming to a standard of workflow management (Workflow/role/activity), and would provide more management flexibility.

As per Claim 18: Craven further discloses, *"The method in claim 17, further comprising the steps of: when it is determined that the new resource has the capability to perform the role, identifying a skill assigned to the new resource that matches a skill assigned to the role of the activity; and modifying the role of the activity to have a corresponding skill strength that is substantially the same as a strength of the skill assigned to the new resource"* (Craven: See page 240, section 2.5: shows each task is assigned to a role, particularly, first paragraph in section 2.5, "substitution of one person for another person/group with the specified skill set"). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further include the teaching *identifying a skill assigned to the new resource and modifying the role of the activity to have a corresponding skill strength* of Craven. Doing so would be conforming to a standard of workflow management (Workflow/role/activity), and would provide more management flexibility.

Art Unit: 2122

As per Claim 19: Craven further discloses, "*The method in claim 13, wherein the number of the modified plans is a percentage of the plurality of the plans that constitute the modified plans, and wherein the predefined threshold is a predefined percentage of the plans*" (Craven: See page 242, section 2.10, For example: "Cost factor": *predefined percentage of the plans*). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of a specific constraint occurred in workflow process of Craven, thus, would react to a specific exception.

As per Claim 20: Claim 20 recites a method that has the functionality corresponding to the functionality as recited in Claim 13. Claim 20 is rejected in the same reason set forth in connecting to the rejection of Claim 13.

As per Claim 21: Claim 21 recites a method that has the functionality corresponding to the functionality as recited in Claim 14. Claim 21 is rejected in the same reason set forth in connecting to the rejection of Claim 14.

As per Claim 23: Claim 23 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 2. Claim 23 is rejected in the same reason set forth in connecting to the rejection of Claim 2.

As per Claim 24: Claim 24 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 3. Claim 24 is rejected in the same reason set forth in connecting to the rejection of Claim 3.

As per Claim 25: Claim 25 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 4. Claim 25 is rejected in the same reason set forth in connecting to the rejection of Claim 4.

As per Claim 26: Claim 26 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 5. Claim 26 is rejected in the same reason set forth in connecting to the rejection of Claim 5.

As per Claim 27: Claim 27 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 6. Claim 27 is rejected in the same reason set forth in connecting to the rejection of Claim 6.

Art Unit: 2122

As per Claim 34: Claim 34 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 13. Claim 34 is rejected in the same reason set forth in connecting to the rejection of Claim 13.

As per Claim 35: Claim 35 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 14. Claim 35 is rejected in the same reason set forth in connecting to the rejection of Claim 14.

As per Claim 37: Claim 37 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 16. Claim 37 is rejected in the same reason set forth in connecting to the rejection of Claim 16.

As per Claims 38-39: Claims 38-39 recite a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claims 17-18. Claims 38-39 are rejected in the same reason set forth in connecting to the rejection of Claims 17-18.

As per Claims 40-41: Claims 40-41 recite a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 19. Claims 40-41 are rejected in the same reason set forth in connecting to the rejection of Claim 19.

As per Claim 42: Claim 42 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 13. Claim 42 is rejected in the same reason set forth in connecting to the rejection of Claim 13.

As per Claim 43: Claim 43 recites a computer-readable medium that has claimed functionality corresponding to the functionality recited in Claim 14. Claim 43 is rejected in the same reason set forth in connecting to the rejection of Claim 14.

As per Claim 45: Claim 45 recites a data processing system that has claimed functionality corresponding to the functionality recited in Claim 2. Claim 45 is rejected in the same reason set forth in connecting to the rejection of Claim 2.

As per Claims 46-47: Claims 46-47 recite a data processing system that has claimed functionality corresponding to the functionality recited in Claim 4. Claims 46-47 are rejected in the same reason set forth in connecting to the rejection of Claim 4.

Allowable Subject Matter

6. Claims 8, 15, 36, 29, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per Claims 8, 29, 48:

Prior art of records, WfMC, Craven, and cited prior arts of record, alone or in combination, do not disclose *"modifying the workflow comprises the steps of: determining whether the default-successor of the activity corresponds to the successor of the task; and when it is determined that the default-successor of the activity does not correspond to the successor of the task, modifying the workflow to reflect the successor of the task"* as recited in such manners in Claims 8, 29, and 48.

As per Claims 15, 36:

Prior art of records, WfMC, Craven, and cited prior arts of record, alone or in combination, do not disclose *"wherein the workflow has an activity that has a default-successor, wherein each of the plurality of plans has a task that performs the activity, the task of each plan has a successor that is consistent with the default-successor of the activity when the task is created, wherein the receiving step includes the step of receiving a new successor for the task that is inconsistent with the default-successor of the activity in the at least one of the plans, and wherein the step of performing includes the step of modifying the default-successor of the activity to reflect the new successor"* as recited in such manners in Claims 15 and 36.

7. Claims 9-11, 30-32, and 49-52: The claims are objected to because the claims are depended on the claims which are objected to as above.

Art Unit: 2122

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Du, US 5,826,239, discloses a method for distributing resource management under control of workflow management system.

Koksal et al., "Workflow History Management", discloses a workflow management that maintains information for monitoring and data mining.

Jooss et al., "Workflow Modeling According to FfMC", discloses a Workflow modeled in NetCASE based on WfMC.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (703) 308-9049. The examiner can normally be reached on 8:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TED T. VO

TTV
Patent Examiner
Art Unit 2122
August 20, 2004